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ABSTRACT

This report evaluates a Chapter 1 program designed by the Division of Special Education's District 75/Citywide of the New York City Board of Education to provide remedial reading instructional services to students with severe handicaps at 15 public and 3 nonpublic school sites serving approximately 883 students. Among these students, 139 also received mathematics instruction. The 1989-90 program, funded under Chapter 1 of the Education Consolidation and Improvement Act, was designed to serve students who need remedial reading or mathematics instruction and those who have improved their skills by participating in the program but continue to need assistance to maintain those gains. The Office of Research, Evaluation, and Assessment (OREA) found that 81 percent of students gained in reading comprehension, thus surpassing the program goal of 75 percent. The program did not, however, meet either of its mathematics goals, which were that 80 percent of students would master 2 or more, and 30 percent would master 5 or more mathematics objectives per 20 sessions attended. The results were 48 percent and 12 percent respectively. The report presents recommendations for more staff development, greater parent and teacher involvement, more computers, better assessment, and other improvements. Statistical data are presented in two tables. (AF)

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OREA Report

DISTRICT 75/CITYWIDE
CHAPTER 1/P.C.E.N.
REMEDIAL READING AND MATHEMATICS

1989-90

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**DISTRICT 75/CITYWIDE
CHAPTER 1/P.C.E.N.
REMEDIAL READING AND MATHEMATICS**

1989-90



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This report was prepared by the Special Education Evaluation Unit, Ronald C. Miller, Unit Manager, of the Office of Research, Evaluation, and Assessment (OREA) of the New York City Public Schools. Marcia Torres, Evaluation Specialist, was the Study Manager, and William Askins was the Senior Consultant. Data analysis was the responsibility of Project Analyst Arnold Simmel, and Data Analyst Xuping Fu. Consultant William Tierney conducted most of the interviews and observations for this study, and prepared the first draft of the report. Jillian Shagan and Kelli Henry developed the instrument coding for data analysis.

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DISTRICT 75/CITYWIDE
CHAPTER 1/P.C.E.N.
REMEDIAL READING AND MATHEMATICS PROGRAM
1989-90

SUMMARY

- The program was implemented as planned.
- The program met and surpassed its reading objective but did not meet its mathematics objective.

The Chapter 1 Reading and Mathematics Program was implemented by the Division of Special Education's District 75/Citywide. It provided remedial instructional services to students with severe handicaps in 15 public and three non-public school sites serving approximately 883 students; among these students, 139 also received mathematics instruction.

OREA's findings were the following. Chapter 1 was implemented by a thoroughly experienced staff; the program provided staff development covering a variety of relevant topics; classroom teachers received the least amount of training. Staff collaboration was satisfactory but teachers requested more time for this activity. In general equipment and supplies were satisfactory, however staff wanted access to more computers. Finally, the Chapter 1 instruction implemented was consistent with the program design. In general, staff feedback on the program was very positive; however the staff made specific suggestions for improving program implementation. These suggestions are presented below along with OREA's recommendations.

With regard to program outcomes, OREA found that nearly 81 percent of students gained in reading comprehension. Thus the program not only met but surpassed the goal of 75

percent. The program did not, however, meet either of its mathematics objectives which were that 80 percent of students would master two or more, and 30 percent would master five or more mathematics objectives per 20 sessions attended. The results were 48 percent and 12 percent respectively.

Based on the above findings OREA makes the following program recommendations:

- Provide more staff development for classroom teachers, more time for staff collaboration, and more computer training for all personnel.
- Inform classroom teachers of Chapter 1 parent involvement activities, give them more feedback about their students' progress, and provide them with more opportunities to get involved in the program.
- Provide more computers.
- Assess students before program sessions begin and develop a more culturally-appropriate assessment instrument.
- Increase the program's capacity to serve eligible students, particularly those with the lowest scores; create smaller groups of students and longer instructional sessions; and maintain and expand the holistic instructional approach.

I. INTRODUCTION

The Chapter 1/P.C.E.N. Remedial Reading and Mathematics 1989-90 Program (Chapter 1) was designed by the Division of Special Education's District 75/Citywide of the Board of Education (B.O.E.) to provide remedial instructional services to students with severe handicaps in 15 public and three non-public school sites serving approximately 883 students; among these students, 139 also received mathematics instruction.

PROGRAM GOALS

The Chapter 1 program was designed to provide instruction to students who need remedial reading or mathematics instruction and those who have improved their skills by participating in the program but continue to need assistance to maintain those gains. The program was also intended to train the teachers of participating students to address their students' academic and affective needs more effectively, thereby increasing the number of students placed in less restrictive environments. The instructional program was designed to address those aspects of student needs which special and general education students have in common, providing services which are similar to services provided in general education compensatory education programs.

PROGRAM OBJECTIVES

The program had two specific educational objectives:

- By June 30, 1990, 75 percent of the Chapter 1 target population receiving remedial reading instruction would gain in reading comprehension as measured by the Stanford Diagnostic Reading Test, Third Edition.
- By June 30, 1990, 80 percent of the Chapter 1 students receiving remedial mathematics instruction would master skills not mastered prior to the program at the rate of two or more skills per 20 sessions attended. Thirty percent would master five or more skills per 20 sessions attended as measured by an ongoing administration of the Individual Criterion Referenced Test (I.C.R.T.).

PROGRAM DESCRIPTION

The 1989-90 program was designed to provide services to a total of approximately 800 handicapped students: 700 SIE VII and VIII students attending self-contained classes at 13 elementary, junior high, intermediate, or special school sites in the public school system and 100 students with similar characteristics in three non-public schools.

The program design specified that the reading component use an integrated instructional approach that would include the development of listening, speaking, and writing skills. Instruction goals would be based on the diagnosed language deficiencies of students and would concentrate on developing the processes needed to improve their comprehension of specific texts. The Stanford Diagnostic Reading Test would be used to measure the specific strengths and weaknesses of students and select new objectives as the student succeeded in mastering previous objectives through a process of ongoing assessment.

Math instruction was designed to help students develop those skills which were identified on the Individual Criterion Referenced Test (I.C.R.T.) as areas needing to be strengthened. Areas to be covered were: computation, numeration, and word problems requiring reasoning skills. These areas were to be taught through materials that incorporate concrete, semi-concrete, and abstract levels of thinking.

Staff Development

The Chapter 1 staff development component was designed to provide training in reading as an integrated process, the writing process, language development, assessment, cognition, holistic instruction, reading in content areas, adapting curriculum and materials to the student in a special education environment, and the use of computers

and word processors to enhance program teachers' instructional abilities.

REPORT FORMAT

This report presents OREA's evaluation of the District 75/Citywide Chapter 1/P.C.E.N. 1989-90 Program. It is organized as follows: the evaluation methodology is described in Chapter II, the evaluation findings are presented in Chapter III, and OREA's conclusions and recommendations are discussed in Chapter IV.

II. METHODOLOGY

OREA's evaluation of the 1989-90 Chapter 1 Remedial Reading and Mathematics program was based on qualitative data on program implementation which consisted of program staffing, staff development, staff collaboration, equipment and supplies, student instruction, parent involvement, program strengths and weaknesses, and quantitative data on students' academic performance. The questions OREA answered in the evaluation were the following.

EVALUATION QUESTIONS

Program Implementation

- Who staffed the Chapter 1 program and how experienced were they?
- What instructional models, approaches, and methods did the Chapter 1 staff use?
- What equipment and materials did Chapter 1 staff use? Was any piece of equipment particularly useful for instruction? How satisfactory were the supply, variety, and quality of equipment and supplies?
- What did staff development consist of for each of the three professional groups with regard to frequency, topics covered, and quality? Who provided the training? Was any type of training of special interest to the participants?
- What did staff collaboration consist of and how satisfactory was it?
- How familiar were classroom teachers with parent involvement activities sponsored by Chapter 1 and District 75?
- What were the strengths and weaknesses of the program and what recommendations did staff make for improving it?

Program Outcomes

Did the Chapter 1 program meet the following objectives?

- By June 30, 1990, 75 percent of the Chapter 1 target population receiving remedial

reading instruction would gain in reading comprehension as measured by the Stanford Diagnostic Reading Test, Third Edition.

- By June 30, 1990, 80 percent of the Chapter 1 students receiving remedial mathematics instruction would master skills not mastered prior to the program at the rate of two or more skills per 20 sessions attended. Thirty percent would master five or more skills per 20 sessions attended as measured by an ongoing administration of the Individual Criterion Referenced Test (I.C.R.T.).

EVALUATION PROCEDURES

Sample

In its evaluation of the Chapter 1 program, OREA included the entire population of students who participated in Chapter 1 reading classes and within this group the entire subgroup of students who also received Chapter 1 mathematics instruction. OREA included all sites, site supervisors, Chapter 1 teachers, and classroom teachers.

Instrumentation

OREA developed a student data retrieval form (D.R.F.) for reading and another for mathematics to record students' attendance and academic information, including the number of sessions attended and the number of objectives attempted and mastered by each student. OREA also developed survey instruments for site supervisors, Chapter 1 teachers, and classroom teachers to record information on program implementation from each group's perspective. Instruments were designed to address all evaluation questions concerning program implementation and student outcomes.

Data Collection

OREA consultants collected a reading data retrieval form for each student receiving reading instruction at all Chapter 1 sites and a mathematics data retrieval form for each student who received mathematics instruction at these sites. In total, OREA collected 883

reading data retrieval forms and 139 mathematics data retrieval forms. Consultants also distributed surveys to all site supervisors, all Chapter 1 teachers, and all classroom teachers. In total, OREA collected 15 site supervisor surveys, 14 Chapter 1 teacher surveys, and 76 classroom teacher surveys.

Data Analysis

OREA consultants coded, aggregated, and analyzed responses to items on surveys to assess program implementation. OREA staff evaluated the extent to which the program met its outcome objectives by tabulating data on the total number of objectives attempted and mastered by each participating student. OREA then used descriptive statistics to calculate the percentage of students who accomplished the achievement objectives.

III. EVALUATION FINDINGS

PROGRAM IMPLEMENTATION

Program Staffing

Chapter 1 was implemented by approximately 15 site supervisors, 17 Chapter 1 teachers, and 76 classroom teachers who provided services to about 883 students at 15 public and three non-public school sites. The majority of the site supervisors were principals or assistant principals. On average they had 17 years of experience in special education, nine years of experience at their site, and six years of experience working with the Chapter 1 program.

Classroom teachers were also highly experienced. Fifty-six percent of all classroom teachers reported that they had four or more years of general teaching experience, more than 52 percent had four or more years of special education experience, more than 63 percent had worked two or more years at their current site, and about 70 percent had worked with the Chapter 1 program from between two to three years.

From these findings OREA concluded that site supervisors and classroom teachers were thoroughly experienced, not only in general and special education but also with the Chapter 1 program and their individual sites.

Staff Development

Of the 15 site supervisors who responded to OREA's survey, 43 percent participated in Chapter 1 staff development. The role of the site supervisor consisted of scheduling, planning, evaluating and/or observing interactions between Chapter 1 teachers and classroom teachers.

Of the 14 Chapter 1 teachers who responded to OREA's survey, 93 percent reported that staff development took place once a month and seven percent reported that it took place more frequently. They received training from the Chapter 1 coordinator, outside consultants, other program staff, the site supervisor, and the Chapter 53 trainer.

Of the 63 classroom teachers who reported the frequency of their staff development sessions, about 13 percent said that they had received training more than once a month, 19 percent reported that training took place once a month, and 16 percent reported that it happened less than once a month. Forty-six percent of these respondents reported not receiving training at all.

Respondents stated that staff development was provided by: the Chapter 53 trainer, the site supervisor, outside consultants, and the Chapter 1 coordinator, among others. The topics which classroom teachers mentioned most frequently were: the responsibilities of program staff (59 percent); social-emotional development (47 percent); communication among program staff (43 percent); use of student progress data (42 percent); holistic training (40 percent); teaching reading and math through content areas (24 percent); developing learning strategies, problem solving, and reasoning skills (22 percent); parent involvement (22 percent); and preparing students for less restrictive environments (21 percent). Chapter 1 teachers requested more staff development in computer usage.

OREA's findings reflect that staff development was provided to all three professional groups involved in the program and that training covered a variety of topics. The classroom teachers' group had the highest percent of staff who reported not receiving staff development.

Staff Collaboration

Site supervisors reported collaborating with Chapter 1 teachers on an informal basis. Topics most frequently covered were: curriculum planning, classroom management, and other miscellaneous problems. Many supervisors were quite satisfied with their collaboration with the Chapter 1 teachers; however, some did express a need for additional time for joint planning with program administrators, coordinators, and teachers.

Chapter 1 teachers responding reported collaborating with classroom teachers on curriculum planning, lesson planning, functional grouping, classroom management, and resolving miscellaneous problems. Most Chapter 1 teachers suggested that more time be set aside for communication. They suggested setting aside a period of time for individual or group meetings to "pool know-how" or simply arranging for all three professional groups to have more free time in common.

About 75 classroom teachers responded to OREA's inquiry about topics they had discussed with Chapter 1 teachers. Topics that teachers reported discussing moderately or extensively with their Chapter 1 colleagues were: classroom management (75 percent), functional grouping (82 percent), miscellaneous problems (75 percent), curriculum use (63 percent), lesson planning (53 percent), and the maintenance of student records (43 percent). Of the 73 teachers who responded to the item, 77 percent stated that there had been enough opportunity to collaborate with Chapter 1 teachers. Thus OREA found that classroom teachers and Chapter 1 teachers discussed a variety of topics and covered them thoroughly. OREA also found that the level of collaboration between the two staff groups was quite satisfactory.

Equipment and Supplies

Site supervisors who responded to OREA's survey reported that most program sites had access to two computers; four sites, however, had none. Some of these sites also had access to printers and other computer-related equipment. Chapter 1 teachers also mentioned using other equipment: tape recorders, videos and film strips, typewriters, and teacher-developed materials. Most site supervisors stated that equipment supplied by the program considerably enhanced instruction. They also expressed an interest in having access to an additional computer. Chapter 1 teachers requested additional materials such as: new maps, audio-visual materials, and other computer-related equipment such as a voice synthesizer, a mouse pad, color ribbons, a modem, and a larger supply of paper. Both site supervisors and Chapter 1 teachers reported that computers were exceptional learning tools and were very effective in motivating students to learn. They stated that the computer was an important if not essential piece of equipment for the Chapter 1 program.

Student instruction

Chapter 1 teachers who responded to OREA's survey reported using the whole class model of instruction, the partial pull-out model, and the travel lab model. One hundred percent of Chapter 1 teachers reported using the holistic approach to teaching; about 86 percent of these respondents found it a very useful approach.

Ninety-five percent of classroom teachers reported that, on average, students attended two to three Chapter 1 reading classes per week. The 51 classroom teachers who responded to OREA's inquiry about teaching methods reported using the following most frequently: reinforcement and Chapter 1 methods and materials (31 percent), the

holistic approach (14 percent) and group activities and discussions (10 percent). Eighty-two percent of classroom teachers reported that they used Chapter 1 methods in their other classes; thus, the effect of classroom teachers' learning extended well beyond Chapter 1 to their other classes.

Chapter 1 and classroom teachers reported that in reading they used the following instructional procedures: experience charts, reading aloud, creative writing activities, silent reading, and techniques for developing students' study skills. Chapter 1 teachers also reported that they used computers to develop writing skills in the following ways: pre-writing exercises, revising and editing drafts, word games, and typing practice.

Chapter 1 staff encouraged students to develop reading skills through the use of "Inside Citywide" a publication sponsored by District 75/Citywide to which students contribute articles. Of the 76 classroom teachers who responded to OREA's inquiry, 65 percent stated that they were familiar with the publication and of these, 27 percent reported that they used the publication to supplement reading assignments. Of the 44 teachers who responded, 11 percent reported that their students had submitted articles or poems to the publication and 5 percent reported that these contributions had been published. From these findings OREA concluded that classroom teachers used this publication for motivating students to develop reading and creative writing skills.

In math, Chapter 1 and classroom teachers reported using the following instructional procedures: consumer math, computer scores and statistics, math and number games, budgets and wages, and word problems.

Parent Involvement

Of the 76 classroom teachers who responded to OREA's inquiry, 59 percent reported

they were familiar with the program's Parents as Partners in Reading (PAPIR). Of these, 29 percent reported that they were somewhat or extensively involved in this parent activity. Thirty-three percent of classroom teachers reported that they were familiar with the Chapter 1 Advisory Council; of these, 36 percent reported being somewhat or very involved in this parent activity. About 57 percent of classroom teachers reported being familiar with the Citywide Parent Advisory Council; of these, 21 percent reported being somewhat or extensively involved in this parent activity.

From these findings OREA concluded that classroom teachers need to be better informed about parent involvement activities sponsored not only by Chapter 1 but also by the District 75/Citywide organization. It might encourage teachers to persuade parents to get involved in these activities.

Program Strengths and Weaknesses

Site supervisors who responded to OREA's survey were very positive about Chapter 1. They perceived that its effect on students was overwhelmingly positive. Students had the opportunity to concentrate on developing specific reading and/or math skills in small groups. This format allowed for more individualized and independent instruction. Site supervisors also reported that students accepted the program with great enthusiasm and some students began reading for recreational purposes. They described the program as "extremely exciting," "innovative," and "of significant benefit." Many respondents stated that no change was needed in the program because it was "wonderful the way it was." Teachers improved their skills and fine tuned all lessons and assignments to fit their students' needs. They commented that the hands-on projects such as map-making were very effective.

Six out of the fourteen site supervisors made the following suggestions for program improvement: an additional Chapter 1 teacher would make it possible to expand the number of students who participate in and benefit from the program; more cooperation and collaboration between Chapter 1 and classroom teachers would be very beneficial to students; and the holistic approach to language skills should be maintained and perhaps expanded.

Chapter 1 teachers' comments about the program were also overwhelmingly positive. They stated that the program was successful, innovative, and enjoyable; that the holistic approach was very positive; that materials supplied by the program were very valuable and plentiful; and that the program allowed for a high level of creativity among students. One Chapter 1 teacher commented that the program was especially beneficial for the poorer readers. Two suggestions for program improvement made by Chapter 1 teachers were that all eligible students be served and that a better, more culturally-appropriate assessment instrument should be found.

Of the total population of classroom teachers, 46 percent made comments on the program. Most were positive and praised the program. Forty-three percent of the respondents mentioned that students really enjoyed the program and looked forward to Chapter 1 sessions. Many respondents commented that students made gains in academic skills such as reading and writing, as well as social skills such as cooperation, attendance, and self-esteem. Seventeen percent of the respondents praised the Chapter 1 teachers. They were also very positive about the small group format, materials and equipment, and teaching methodology.

Classroom teachers made the following suggestions for improving the program: they requested more time to meet with Chapter 1 teachers; more feedback on their

students' progress in the Chapter 1 sessions; more opportunities to get involved in the Chapter 1 program; and smaller instructional groups and longer sessions. They suggested that the admissions process should be modified so that assessments take place before sessions begin, and that the program concentrate on students who have the lowest scores.

OUTCOME OBJECTIVES

OREA analyzed the quantitative data to measure the extent to which the program met its objectives. The findings are presented below.

Reading Achievement

OREA reviewed the reading achievement results of Chapter 1 students collected on student data retrieval forms. Table 1 presents the percent of students who demonstrated a gain in reading achievement, by test level. OREA found that nearly 81 percent of students gained in reading comprehension. Thus the program not only met but surpassed the goal of 75 percent.

Mathematics Achievement

Upon review of the Chapter 1 student achievement data in mathematics, of a total of 139 students for whom data were available, 91 students (65 percent) received 20 sessions or more of Chapter 1 math instruction. OREA included this population in its analysis because students with fewer than 20 sessions could not be considered to have had minimum exposure to the program. Table 2 presents the percent of students who demonstrated a gain in mathematics achievement. OREA found that about 48 percent of these students mastered two or more mathematics objectives and about 12 percent

mastered five or more mathematics objectives per 20 sessions attended; thus the program did not meet its objectives of 80 and 30 percent respectively.

Table 1
Students Demonstrating Gain
in Reading Achievement,^a
by Test Level

(N = 600)

Test Level	Total Number of Students	Number Showing Gain	Percent Showing Gain
1	351	284	80.9
2	184	144	78.3
3	58	46	79.3
4	7	6	85.7
Total ^b	600	480	80.0

Source: OREA-developed student Data Retrieval Forms

^a Reading Achievement was measured by the Stanford Diagnostic Reading Test which has the following grade equivalents for each test level 1 = grades 1-3; level 2 = grades 3-5; level 3 = grades 5-9; and level 4 = grades 9-12.

^b Only students with complete data including test level and pre- and post-test scores (600) were included in this analysis.

- *Nearly 81 percent of students gained in reading comprehension not only meeting, but also surpassing the program goal of 75 percent.*

Table 2
Students Demonstrating Gain
in Mathematics Achievement
by Test Level

(N = 91)

Test Level	Total Number of Students	Number Showing Gain	Percent Showing Gain
5 or more	11	12.1	12.1
4	7	7.7	19.8
3	13	14.3	34.1
2	13	14.3	48.4
1	22	24.2	72.6
less than 1	25	27.5	100.1
Total	91	100.1	

Source: OREA-developed student data retrieval forms

^a Refers to the number of objectives mastered per 20 sessions of instruction.

^b Only students who attended 20 sessions or more were included; the remaining students were considered to have received less than sufficient instruction.

- *About 48 percent of students mastered two or more and about 12 percent mastered five or more mathematics objectives per 20 sessions attended; thus the program did not meet its objectives of 80 and 30 percent in mathematics.*

IV. CONCLUSIONS AND RECOMMENDATIONS

The Chapter 1/P.C.E.N. Remedial Reading and Mathematics program was implemented by the Division of Special Education's District 75/Citywide. It provided remedial instructional services to students with severe handicaps in 15 public and three non-public school sites serving approximately 883 students; 139 of these students also received mathematics instruction.

OREA found that Chapter 1 was implemented by a thoroughly experienced staff made up of three professional groups: site supervisors, Chapter 1 teachers, and classroom teachers. All three groups received staff development which covered a variety of relevant topics, but classroom teachers received the least training. Even so, classroom teachers reported applying approaches and methods they had learned in Chapter 1 training to their regular classes. All three groups had the opportunity to collaborate and were satisfied in general with the quality of this interaction; however, site supervisors and Chapter 1 teachers requested that more time be scheduled for collaboration.

In general, respondents were satisfied with the program's equipment and materials. However, because computers were particularly useful for instruction, participants requested more of them. Chapter 1 and classroom teachers provided instruction consistent with the program design. Respondents suggested that classroom teachers be made more aware of parent involvement activities so that they could encourage parents to participate in classroom activities.

All three professional groups were very positive about the program; however they made specific suggestions for improvement. Site supervisors suggested: adding a Chapter 1 teacher to increase the capacity of the program to serve a larger number of

eligible students; increasing collaboration between Chapter 1 and classroom teachers; and maintaining the holistic approach to language development. Chapter 1 teachers suggested: delivering more staff development on computer use, serving all eligible students, and developing a more culturally-appropriate assessment instrument. Classroom teachers suggested: increasing the amount of time to meet with Chapter 1 teachers; getting more feedback on their students' progress in the program sessions; increasing the number of opportunities to get involved in the program; creating smaller groups of students and longer program sessions; assessing students before sessions begin; and concentrating more on students with the lowest scores.

With regard to program outcomes, OREA found that nearly 81 percent of students gained in reading comprehension. Thus the program met and surpassed the goal of 75 percent. The program did not, however, meet either of its mathematics objectives which were that 80 percent of students would master two or more, and 30 percent would master five or more mathematics objectives per 20 sessions attended. The results were 48 percent and 12 percent respectively.

Based on the findings, OREA makes the following recommendations:

- Provide more staff development for classroom teachers, more time for staff collaboration, and more computer training for all personnel.
- Inform classroom teachers of Chapter 1 parent involvement activities, give them more feedback about their students' progress, and provide them with more opportunities to get involved in the program.
- Provide more computers.
- Assess students before program sessions begin and develop a more culturally-appropriate assessment instrument.
- Increase the program's capacity to serve eligible students, particularly those with the lowest scores; create smaller groups of students and longer instructional sessions; and maintain and expand the holistic instructional approach.